An Understanding of Unhealthy Relationships with Digital Technology and Strategies to Promote Digital Health and Well-Being

8th Annual Kansas Prevention Collaborative Conference

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Ngoc Vuong and Ruby Ochoa

About Us

Ngoc Vuong

Ruby Ochoa

Grounding Ourselves in Discussion: Think, Pair, and Share.

- Find someone new to talk with:
  - What was your childhood like? What were your favorite toys growing up?
  - How does that compare/contrast with childhood now?

Grounding Ourselves in Discussion: Think, Pair, and Share.

- Find someone to talk with:
  - In what ways has social media and smartphones benefitted you?
  - In what ways has social media and smartphones benefitted your children/youth/students in your community?

Grounding Ourselves in Discussion: Think, Pair, and Share.

- Find someone else to talk with:
  - In what ways has social media and smartphones not benefitted you, or perhaps, even harmed you or the people you know?
  - Should schools ban the use and possession of cellphones during the school day?

Mini Quiz

- How many school districts have filed lawsuits against social media companies?
  - Corner A (Top Left): At least 50.
  - Corner B (Top Right): At least 100.
  - Corner C (Bottom Left): At least 150.
  - Corner D (Bottom Right). At least 200.

Mini Quiz

- How many state governments have filed lawsuits against social media companies?
  - Corner A (Top Left): 19 states and DC.
  - Corner B (Top Right): 28 states and DC.
  - Corner C (Bottom Left): 42 states and DC.
  - Corner D (Bottom Right). All 50 states and DC.

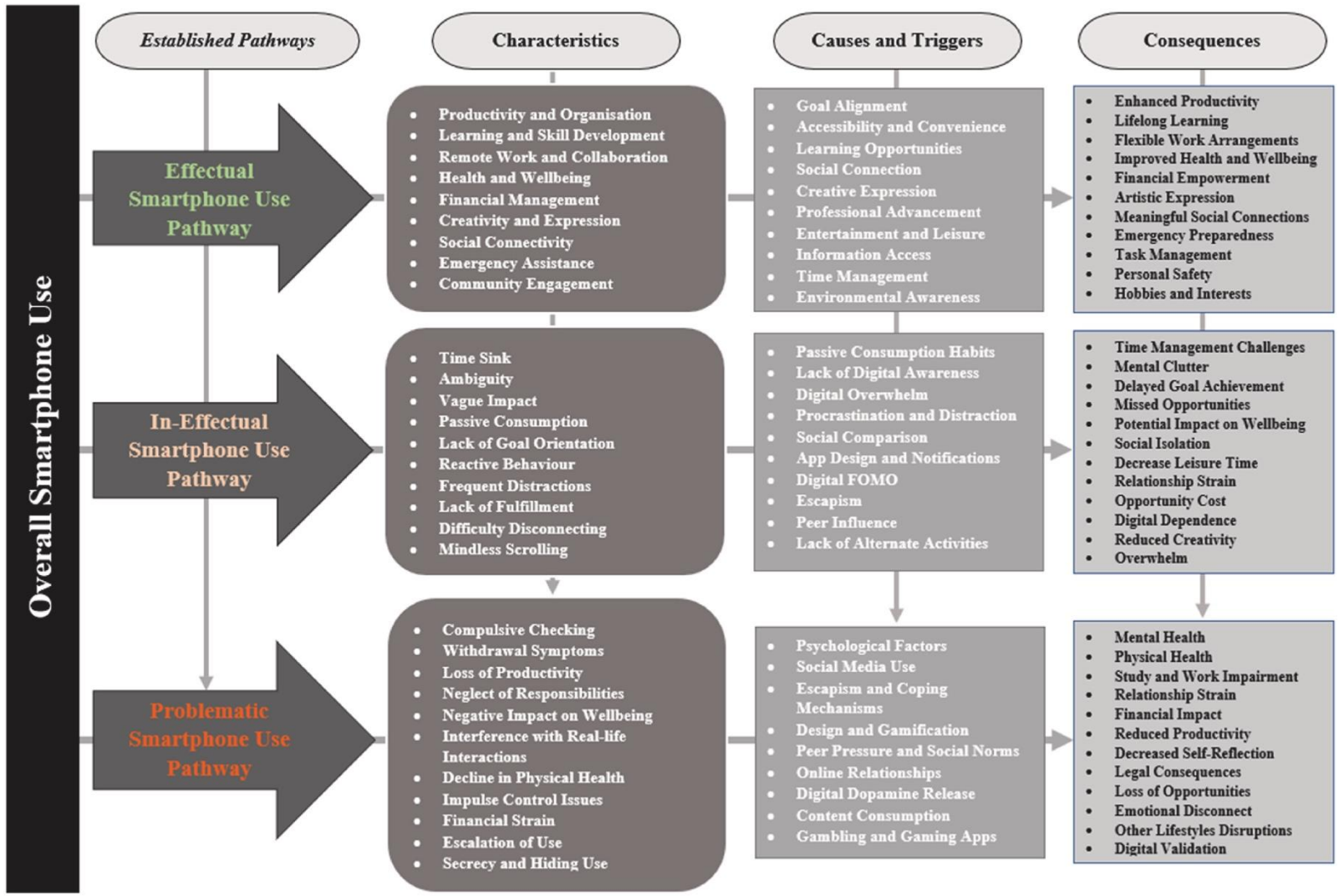
Theoretical Foundations of Problematic Technology Usage: Limitations with Previous Research

- **Lack of consensus within the literature on the terms, definitions**, and approaches to describe and understand this overarching phenomenon, the instruments/measures used to assess it, population-level estimates of its prevalence, and the scope and severity of its harms.
- **Screen time**, usage duration, and frequency = Important but **insufficient in determining harm**.
- Key questions for consideration:
  - Should problematic technology use be framed as an addiction, akin to a substance use disorder?
  - How might researchers and advocates be contributing (in)advertently to the overpathologization of digital behaviors?
  - How do social-ecological factors contribute to problematic technology usage?

Theoretical Foundations of Problematic Technology Usage: Creating a Common Language

Integrative Pathways Model (IPM) by Nawaz (2024)		
Effectual Smartphone Use (ESU) Pathway	**Ineffectual Smartphone Use (ISU) Pathway**	**Problematic Smartphone Use (PSU) Pathway**

Theoretical Foundations of Problematic Technology Usage: Creating a Common Language



The Integrative Pathways Model (IPM) in the Context of Schools

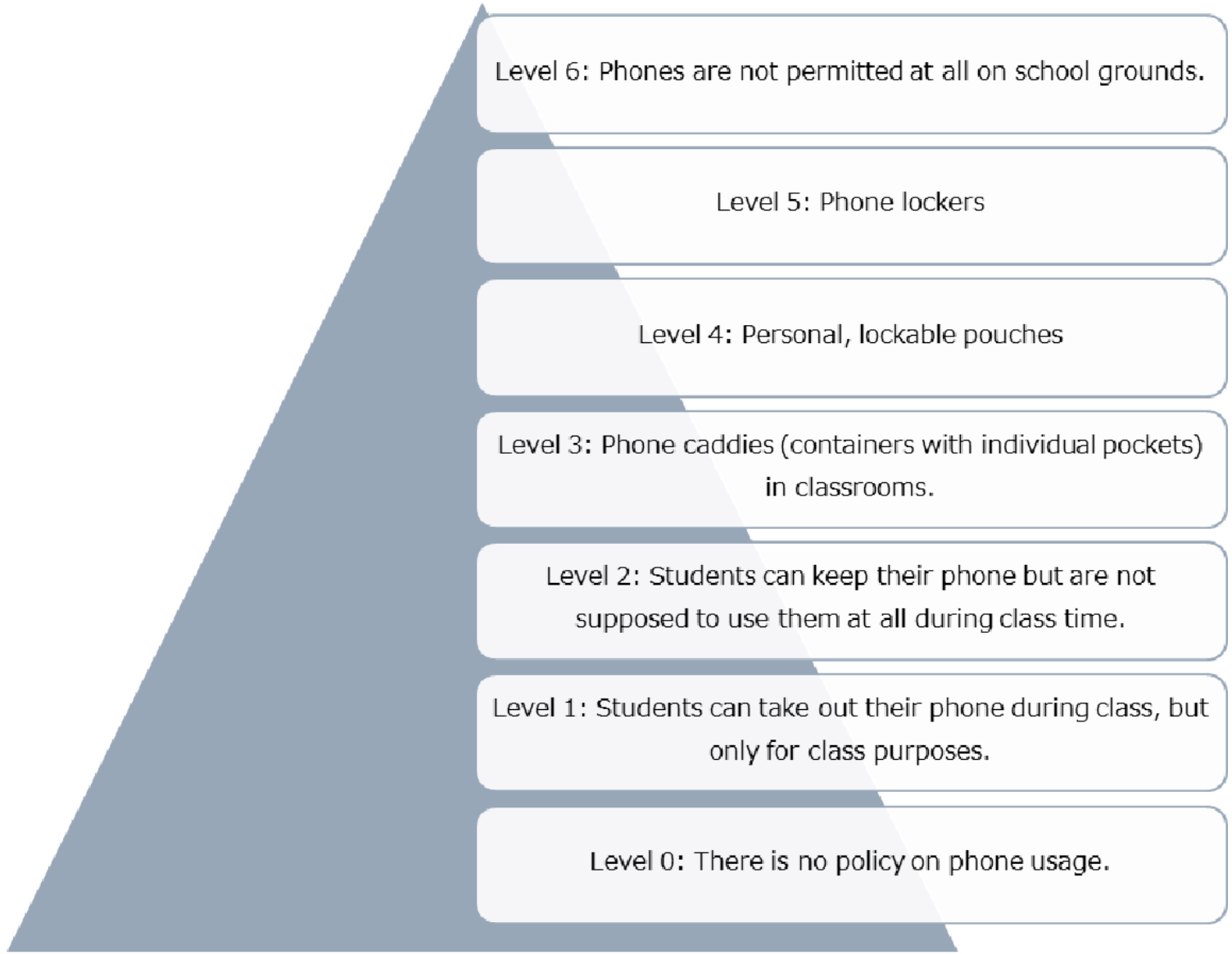
- Which one is which?
  - Smartphone use actively undermines learning and behavior. Devices are used disruptively during instruction, fuel distraction and impulsivity, and contribute to classroom management challenges, disciplinary incidents, and mental health/physical health issues.
  - Smartphones are used strategically to support learning, communication, and organization, enhancing students' academic engagement, self-regulation, and personal/professional growth and development.
  - Smartphone use is largely passive or unfocused, such as habitual scrolling or multitasking, yielding minimal positive impact on academic or behavioral outcomes.

A Question for Discussion

How might the integrative pathways model (IPM) explain both support for, opposition to, and the nuances of bell-to-bell personal electronic device policies? Discuss with a shoulder partner.

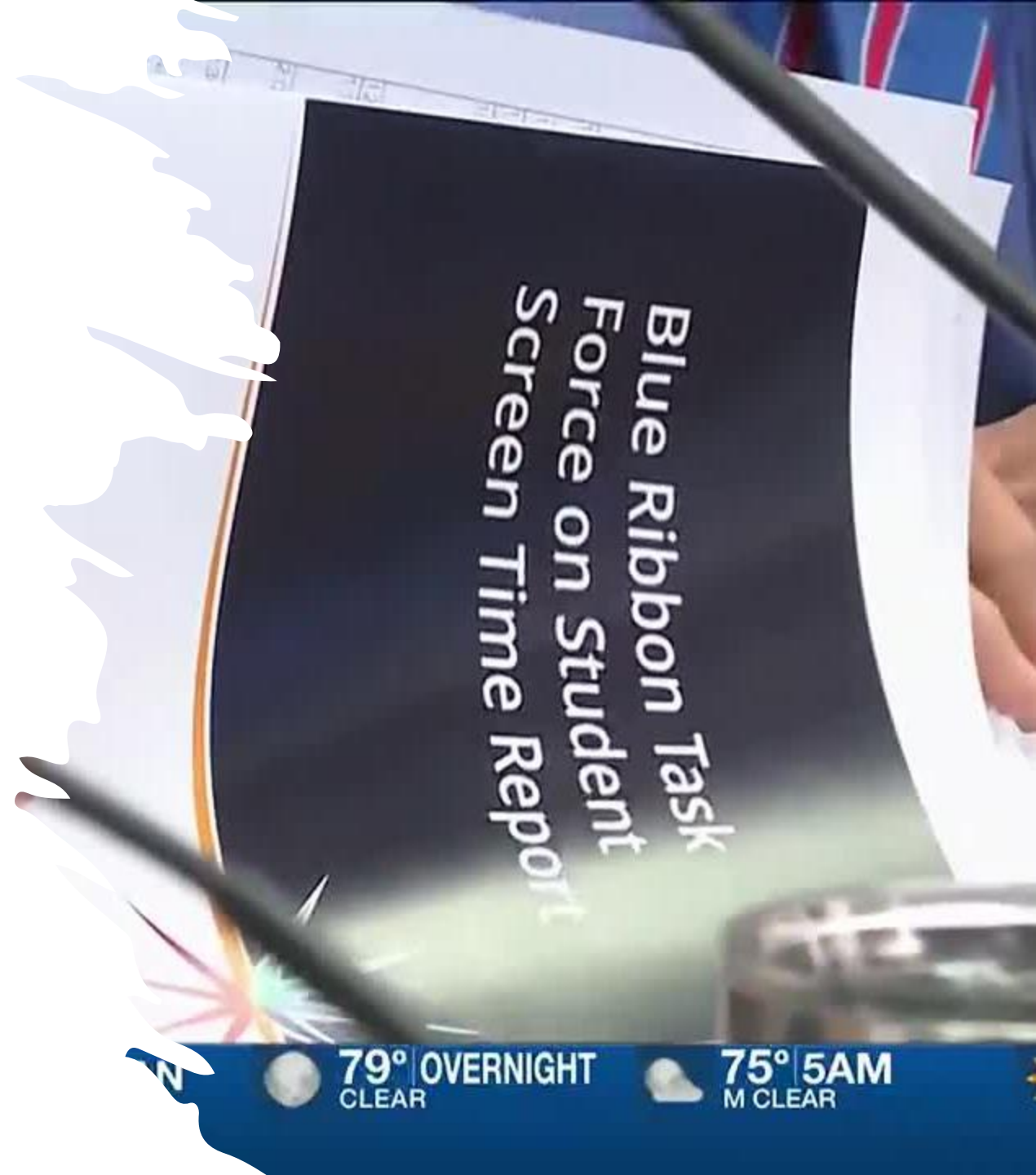
True or False.

1. The literature on the effects of personal electronic device policies is characterized by mixed findings.
2. To date, most studies that have been conducted on personal electronic device policies have taken place in other countries.
3. Only a minority of public schools nationwide report prohibiting the use of personal electronic devices during class time/instructional time.
4. In general, in order of grade levels, the restrictiveness of personal electronic device policies: High schools < Middle schools < Elementary schools.


Level 6: Phones are not permitted at all on school grounds.
Level 5: Phone lockers
Level 4: Personal, lockable pouches
Level 3: Phone caddies (containers with individual pockets) in classrooms.
Level 2: Students can keep their phone but are not supposed to use them at all during class time.
Level 1: Students can take out their phone during class, but only for class purposes.
Level 0: There is no policy on phone usage.

The Kansan Context of Personal Electronic Device Policies

- Past legislative efforts to enact a statewide bell-to-bell PED policy have failed due to local control arguments.
- State BOE accepted, but did not mandate, recommendations from the Blue Ribbon Task Force on Student Screen Time.
- Substantial heterogeneity in the PED policy landscape in Kansas.
- In a survey by KSDE, superintendents emphasized a need for research on PED policies and student outcomes.



An Introduction to *Phone-Free Schools in the Sunflower State*

- Purpose: Determine whether the implementation of bell-to-bell personal electronic device policies at the middle school and high school level predict meaningful improvements in school-level outcomes over time.
- Research Questions: **Does adoption of a bell-to-bell personal electronic device policy with storage requirements predict improvements in…**
  - Kansas Assessment Program (KAP) proficiency levels in English, Math, and Science?
  - Graduation rates?
  - Attendance rates?
- Data Source: KSDE Data Central
- Research Design: Quasi-experimental study
- Analytic Technique: Staggered difference-in-differences (DiD) analyses

Identify and Classify Policies

- Conduct a comparative policy analysis of the 286 Kansas school districts' PED policies.
- Compile publicly available demographic information of each school district.

Select School Districts for Inclusion

- Utilize coarsened exact matching (CEM) to generate a comparable sample of school districts based on demographics.
- Validate selected school districts' PED policy information and time of implementation.

Prepare and Integrate Data

- Compile and clean a panel dataset which links selected middle and high schools' PED policy information; demographics; and academic, attendance, and disciplinary outcomes from 2015 to 2024.

Analyze Policy Effects

- Conduct a staggered difference-in-differences (DiD) analysis to compare average treatment effects (ATEs) between bell-to-bell schools and matched non-bell-to-bell schools.
- Assess model assumptions and conduct robustness checks and sensitivity analyses.

Preliminary Findings from Phase 1

- Out of 286 school districts in Kansas, **what is the nearest proportion of school districts that have a bell-to-bell PED policy across all grade levels**?
  - Corner A (Top Left): 10%
  - Corner B (Top Right): 20%
  - Corner C (Bottom Left): 30%
  - Corner D (Bottom Right). 40%

Preliminary Findings from Phase 1

- Out of nearly 500,000 (476,833) public school students in Kansas, what is the proportion of them attending a **school district with a bell-to-bell PED policy across all grade levels**? Raise your hand when I say your estimated percentage. If I do not say your estimated percentage, keep your hand down.

Preliminary Findings from Phase 1

256 school districts (90%) have a bell-to-bell policy at the elementary level.

191 school districts (67%) have a bell-to-bell policy at the middle school level. 145 (76%) of those districts with bell-to-bell policies do not allow their middle school students to have their device on them.

94 school districts (33%) have a bell-to-bell policy at the high school level. Of those, 72 (76%) do not allow their high school students to have their device on them.

Of the 91 school districts with a bell-to-bell policy across all grade levels, 71 (78%) had enrollment sizes less than 600, 9 (10%) had enrollment sizes between 600-999, 8 (9%) had enrollment sizes between 1,000-2,499, 2 (2%) had enrollment sizes between 2,500-4,999, and 1 (1%) had an enrollment size between 5,000-9,999.

The largest school district with a purported bell-to-bell policy is Topeka, which has nearly 13,000 students. However, the fact that there is administrative discretion at Topeka for high school students to use their phones during lunch led us to not count it as having a true bell-to-bell PED policy.

School District-Level Breakdowns

- Visit https://rb.gy/l5kwqw.
- Email me at ngoc.vuong@wichita.edu or nxvuong1@shockers.wichita.edu.

Questions for Discussion

- Get into pairs or small groups. Have someone take notes. Have someone report out. Discuss the following:
  - What does your school do when it comes to addressing problematic technology usage?
  - How does your school assess the effectiveness of those strategies?
  - What else should/could your school be doing to promote digital citizenship, digital well-being, and digital disconnection?
  - What else should/could your community be doing to promote digital citizenship, digital well-being, and digital disconnection?

Ngoc and Ruby's Reflections on Digital Technology

- Are the bell-to-bell personal electronic device policies enough?
- How does the proliferation of EdTech and AI factor into these conversations and efforts?
- How do PTU/PSUD prevention efforts relate to other causes and issues?
- What can you do in your own life to practice healthy digital habits and wellness?

Next Steps

- Aiming for Spring 2026 for completion of doctoral dissertation.
- Looking for educational stakeholders across Kansas as collaborators to co-construct research and evaluation projects on personal electronic device policies, digital literacy/citizenship programs and curriculums, and more.
- Looking for youth leaders to mentor in implementing service-learning projects on addressing problematic technology usage.
- Interested?
  - Contact Ngoc Vuong at (316) 516-3078, ngoc.vuong@wichita.edu, or nxvuong1@shockers.wichita.edu.
  - Contact Ruby Ochoa at ryochoa@shockers.wichita.edu.